NATIONAL CANCER INSTITUTE

A Snapshot of Melanoma

Incidence and Mortality Rate Trends

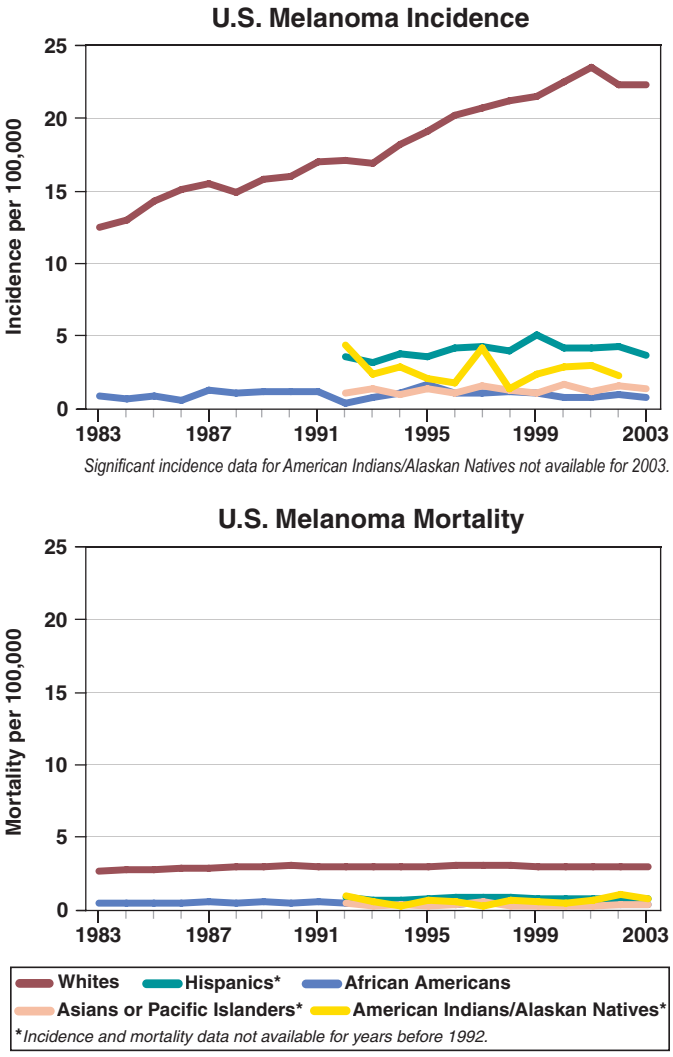
As the most serious form of skin cancer, melanoma is the fifth leading type of new cancer diagnosis in U.S. men and the seventh in U.S. women. The incidence rate for invasive melanoma is highest in Whites, who are 19 times more likely to develop melanoma than African Americans. Men ages 65 or older are twice as likely to develop melanoma as women in the same age group.

It is estimated that in 2006, 62,190 individuals will be diagnosed with melanoma in the United States, and 7,910 people will die as a result of the disease.

Approximately $1.5 billion[1] is spent in the United States each year on treatment of melanoma.

Source for incidence and mortality data: Surveillance, Epidemiology and End Results (SEER) Program and the National Center for Health Statistics. Additional statistics and charts are available at http://seer.cancer.gov.

[1]In 2004 dollars, as reported in Brown ML, Riley GF, Schussler N, and Etzioni RD. Estimating health care costs related to cancer treatment from SEER-Medicare data. *Medical Care* 2002 Aug; 40 (8 Suppl): IV-104–17.

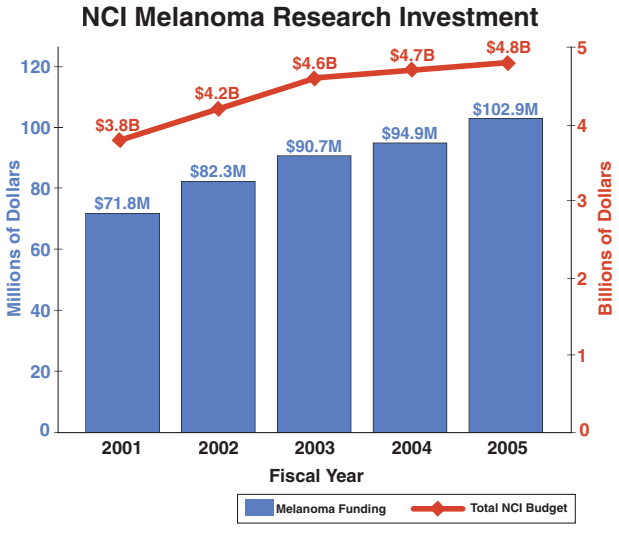


Trends in NCI Funding for Melanoma Research

The National Cancer Institute's (NCI's) investment[2] in melanoma research has increased from $71.8 million in fiscal year 2001 to $102.9 million in fiscal year 2005.

Source: NCI Financial Management Branch http://fmb.cancer.gov.

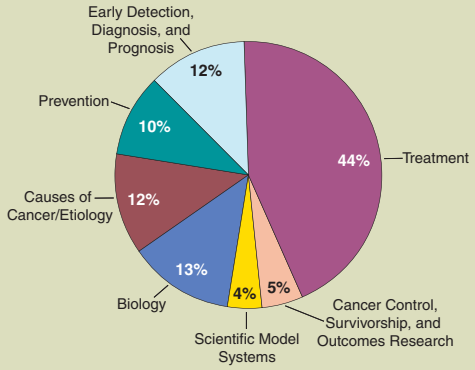
[2]The estimated NCI investment is based on funding associated with a broad range of peer-reviewed scientific activities. For additional information on research priorities and funding, see http://www.nih.gov/about/researchpriorities.htm#overview.



Examples of NCI Research Initiatives Relevant to Melanoma

- Three skin cancer-specific **Specialized Programs of Research Excellence (SPOREs)** are identifying new biologic treatments for melanoma, identifying the genes that regulate the body's immune response to melanoma, and identifying markers of high-risk melanoma. http://spores.nci.nih.gov/current/skin/skin.html
- The **Mouse Models of Human Cancers Consortium** is developing a collection of mouse models that mimic human skin cancers, including malignant melanoma. http://emice.nci.nih.gov/mouse_models/organ_models/skin_models
- The **Specimen Resource Locator** is a database that helps researchers locate human specimens (e.g., tissue, serum, and DNA/RNA) for cancer research. It includes data on normal, benign, precancerous, and cancerous human tissue from a variety of organs, including skin. http://pluto3.nci.nih.gov/tissue/default.htm
- The **Tumor Microarray Research Program (TARP)** has collected samples of melanoma and metastatic lesions to construct multi-tumor tissue microarrays for studying the expression of genes and proteins. http://ccr.cancer.gov/tech_initiatives/tarp/details.asp

NCI Melanoma Research Portfolio



Percentage of Total Dollars by Scientific Area
Fiscal Year 2005

Data on training grants are not included in this figure. A description of the relevant research projects can be found at the NCI Cancer Research Portfolio website at http://researchportfolio.cancer.gov.

- The **Clinical, Laboratory, and Epidemiologic Characterization of Individuals and Families at High Risk of Melanoma Study** is determining how genetic and environmental factors contribute to melanoma development. http://clinicalstudies.info.nih.gov/cgi/wais/bold032001.pl?A_02-C-0211.html@melanoma
- The **Melanoma Home Page** directs visitors to up-to-date information on melanoma treatment, prevention, genetics, causes, screening, testing, and other topics. http://cancer.gov/cancerinfo/types/melanoma

Selected Opportunities for Advancement of Melanoma Research

- Improve prevention and early detection of melanoma in high-risk individuals by identifying and characterizing melanoma susceptibility genes.
- Identify clinically useful biomarkers to improve melanoma classification and management.
- Investigate the role of inflammatory and immune cells in melanoma initiation, invasion, blood vessel formation, and progression.
- Identify and test therapeutic interventions that can be used alone or in combination to target the molecular changes of melanoma.
- Gain a better understanding of the tumor microenvironment by studying the biology of melanocytes (pigment-producing skin cells), identifying tumor and/or stromal stem cells, and characterizing the interactions between these cell types during melanoma initiation, invasion, and progression.